INDIANA DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT

VERIFYING SIEVES
ITM No. 902-15T

1.0 SCOPE

1.1 This test method covers the procedure for verifying the physical condition of laboratory testing sieves ranging in size from 4 in. to No. 200.

1.2 This ITM may involve hazardous materials, operations, and equipment and may not address all of the safety problems associated with the use of the test method. The user of the ITM is responsible for establishing appropriate safety and health practices and to determining the applicability of regulatory limitations prior to use.

2.0 REFERENCES.

2.1 AASHTO Standards.

M 92 Wire-Cloth Sieves for Testing Purposes

3.0 TERMINOLOGY. Definitions for terms and abbreviations shall be in accordance with the Department's Standard Specifications, Section 101.

4.0 SIGNIFICANCE AND USE. This ITM is used by laboratory personnel to verify the physical condition of testing sieves.

5.0 APPARATUS.

5.1 Calipers, readable to 0.01 mm

6.0 PROCEDURE.

6.1 Sieves #4 and Coarser.

6.1.1 Record the sieve identification, manufacturer, opening size, frame height and diameter.

6.1.2 Hold the sieve against a uniformly illuminated background. Check the general condition of the sieve for cracks in frame, broken solder joints, wire tightness, and irregular openings.

6.1.3 Select two perpendicular fields of five openings each for verification. (Appendix A - Figure 1)

6.1.4 Using the calipers, measure and record the openings at their vertical (Y) and horizontal (X) midpoints (Appendix A - Figure 2). Keep the X and Y components separate and calculate the average of all 10 X measurements and all 10 Y measurements.

6.2 Sieves Finer than #4.

6.2.1 Record the sieve identification, manufacturer, opening size, frame height and diameter.

6.2.2 Hold the sieve against a uniformly illuminated background. Check and record the general condition of the sieve for cracks in frame, broken solder joints, weaving defects, creases, wrinkles, wire tightness, and irregular openings.

7.0 TOLERANCE.

7.1 Sieves #4 and Coarser. The maximum individual opening and average opening for each sieve shall not exceed the sieve tolerances of Table 1. If the tolerances of Table 1 are exceeded or there are general physical condition deficiencies as noted in 6.1.2, the sieve shall be replaced.

7.2 Sieves Finer than #4. If there are general physical condition deficiencies as noted in 6.2.2, the sieve shall be replaced.

SIEVE TOLERANCES

Standard Sieve Designation	Alternative Sieve Designation	Permissible Average Opening	Maximum Individual Opening
100 mm	4 in.	±3.00 mm	104.8 mm
90 mm	3 1/2 in.	±2.70 mm	94.4 mm
75 mm	3 in.	±2.20 mm	78.7 mm
63 mm	2 1/2 in.	±1.90 mm	66.2 mm
50 mm	2 in.	±1.50 mm	52.6 mm
37.5 mm	1 1/2 in.	±1.10 mm	39.5 mm
25 mm	1 in.	±0.800 mm	26.4 mm
19 mm	3/4 in.	±0.600 mm	20.1 mm
12.5 mm	1/2 in.	±0.390 mm	13.31 mm
9.5 mm	3/8 in.	±0.300 mm	10.16 mm
4.75 mm	No. 4	±0.150 mm	5.14 mm

TABLE 1

Tolerances for sieves not in Table 1 may be found in AASHTO M 92

SIEVE VERIFICATION
ITM 902

Sieve Identification: _____

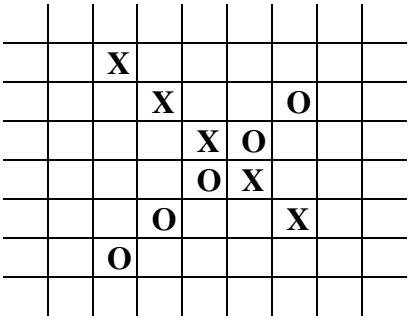
Manufacturer: _____

Sieve Opening Size: _____ Frame Height/Diameter: _____/_____

General Physical Condition				
For Sieves finer than No. 4			**For sieves No. 4 and coarser**	
	√			√
Is the frame cracked?			Is the frame Cracked?	
Are the welds broken?			Are the welds broken?	
Any weaving defects, creases or wrinkles?			Are the wires tight?	
Is the screen tight?			Are irregular openings apparent?	
Are irregular openings apparent?				

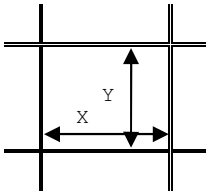
Opening Verification for sieves #4 and coarser

Figure 1:



Field 1: O Field 2: X

Figure 2



	Field 1		Field 2	
	X	**Y**	**X**	**Y**
1				
2				
3				
4				
5				

Average of all ten X:	**Average of all ten Y:**

No X or Y component may exceed the maximum individual opening given in Table 1

The X or Y average may not exceed the permissible average opening given in Table 1

Remarks: _____

Calibration Equipment Used: _____

Verified by: _____

Date: _____ Next Due Date: _____